



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/552,820

10/11/2005

Bernhard Gleich

DE 030115

5543

24737

7590

03/18/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

CHAO, JUSTIN

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,820	<b>Applicant(s)</b> GLEICH, BERNHARD	
	<b>Examiner</b> Justin Chao	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/17/07</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group 1, claims 1-22 in the reply filed on 12/14/07 is acknowledged.

### ***Drawings***

2. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

### ***Specification***

3. The abstract of the disclosure is objected to because it exceeds 150 words. Correction is required. See MPEP § 608.01(b).
4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.

- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A “Sequence Listing” is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required “Sequence Listing” is not submitted as an electronic document on compact disc).

5. The disclosure is objected to because of the following informalities: in page 5, line 20, it is unclear what “an e.g. magnetic field” refers to.

Appropriate correction is required.

### ***Claim Objections***

6. Claims 1-22 are objected to because of the following informalities:
- claims 1-22 fail to positively set forth any active steps in the method, such as “generating...”, “changing...” or “acquiring...”;
  - in claims 2, 3, 5, 6 and 22, it is unclear how the term “more particularly” affects the scope of the claims;
  - in claim 2, step a, it is unclear whether “magnetic field strength” refers to the imaging magnetic field or the varying magnetic field;

in claim 2, step b, it is unclear how does the invention “change” the spatial location;

in claims 2 and 3, “area of examination” should be --examination area--;

in claim 2, step c, “this change” should be --this change of the spatial location of both sub-areas”;

in claim 2, step d, it is unclear how the referenced step of "determining of the spatial distribution of the magnetic particles" is performed since only evaluation of signals “to obtain information about the spatial distribution of the signals” is performed;

in claim 2, step d, "the determining of the spatial distribution of the magnetic particles" lacks antecedent basis; Examiner notes the reference to this determining in the preamble, however there is no positively recited step in the claims;

in claim 3, “claim two” should be --claim 2--;

in claim 3, “the gradient field” lacks antecedent basis;

in claims 4, and 7, “the area of examination” lacks antecedent basis

in claim 4, “those attractive forces” should be “attractive forces”;

in claims 4, and 7, “the clumping” lacks antecedent basis;

in claim 4, “this location” lacks antecedent basis;

in claim 5, the Applicant has not defined “spatial components” and therefore “all three spatial components” lacks antecedent basis;

claims 6, 11,12,15,20 and 21 define the particles and magnetic field and

fail to set forth further steps in the method;

claim 7 merely define a capability of the method and fail to positively set forth a step in the method;

in claim 8, "a varying magnetic field" should be --the varying magnetic field--;

in claim 9, "characterised" should be --characterized-- for consistency;

in claim 9, "the imaging magnetic field" lacks antecedent basis;

in claim 14, "said medium" should be --said liquid medium--;

in claim 14, "the examination area" lacks antecedent basis;

in claim 15, "the medium" should be --the liquid medium--;

in claim 16, "the particles are de-agglomerated" lacks antecedent basis;

and

in claim 18, "the exposure to the imaging magnetic field" lacks antecedent basis.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding the claimed "time sufficient to increase the distance between agglomerated particles sufficiently to prevent re-agglomeration," the specification merely discloses an initial magnetic field of high amplitude to separate particles and once separated, a subsequent magnetic field of lower amplitude to further separate the particles (para 43. A person of ordinary skill in the art would not be enabled to determine such a claimed "time."

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 2, 3, 5-7, 10, 16-20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claims 2, 3, 16-19 and 22 are incomplete in that the claims fail to set forth a step of determining the spatial distribution of the particles in the area of examination as required by the preamble and merely set forth obtaining information about the spatial distribution of signals in the area of examination.

12. Regarding claim 5, it is unclear as to what "all three spatial components" are.

13. Regarding claim 20, the recitation that the particle “can be reverse magnetized by Neel rotation **and/or** that the reverse magnetization is caused by Brownian rotation” is indefinite.

14. Claim 16 refers to a step of “administering [magnetic particles] to the examination area” however this administering step lacks antecedent basis and it is unclear whether it is being claimed here.

15. Regarding claim 18, the limitation “the frequency of the varying magnetic field **is close to** the frequency of the imaging magnetic field” is indefinite.

16. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).



17. In the present instance, claim 6 recites the broad recitation “at least 30,” and the claim also recites “at least 40 nm” which is the narrower statement of the range/limitation.

18. Claim 7 recites the broad recitation “a frequency in the range of approx. 1 kHz to 10 MHz,” and the claim also recites “preferably 10 to 500 kHz” which is the narrower statement of the range/limitation.

19. Claim 10 recites the broad recitation “at least 30,” and the claim also recites “preferably at least 50 mTesla” which is the narrower statement of the range/limitation.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 1, 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Schneider et al WO9927981.

22. Schneider et al disclose a method for preventing or reducing agglomeration of magnetic particles wherein the magnetic particles are exposed to a varying magnetic field sufficient to cancel out those attractive forces resulting in the clumping or agglomeration between neighboring particles (col 2, ll. 23-38), characterized in that the varying magnetic field can be applied, locally restricted, in the area of examination.

23. Regarding the local restriction of the magnetic field, Examiner notes that the area of examination has not been further limited, and since a magnetic field decreases as a function of distance, it is inherent that the magnetic field is locally restricted.

***Claim Rejections - 35 USC § 103***

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 6, 8, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al WO9927981.

26. Regarding the particle size of claim 6, magnetic field frequency of claims 8 and 15, magnetic field strength of claim 9 and magnetic field power of claim 12, Schneider et al discloses the invention as claimed and as discussed above. Although the claimed parameters of the invention are not positively disclosed, it would have been obvious to one of ordinary skill in the art at the time of the invention to use those parameters since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only ordinary skill in the art. See MPEP 2144.05. *In re Aller*, 105 USPQ 233.

27. Regarding claim 12, Schneider et al further teaches an oscillating magnetic field (col 2, l. 6) which reads upon the claimed intermittent pulses.

28. Claims 10, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al WO9927981 in view of Ivkov 2006/0142749.

29. Schneider et al teach a method for preventing or reducing agglomeration of magnetic particles.

30. Regarding the magnetic field strength of claim 10 and magnetic field frequency of claim 15, although the claimed parameters of the invention are not positively disclosed, it would have been obvious to one of ordinary skill in the art at the time of the invention to use those parameters since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only ordinary skill in the art. See MPEP 2144.05. *In re Aller*, 105 USPQ 233.

31. Ivkov teaches a magnetic imaging agent wherein the magnetic particles are monodomain particles (para 63-64), wherein the magnetic particles are in a liquid medium in the examination area, wherein said medium is blood (para 27), and the frequency of the varying magnetic field is chosen in view of the viscosity of said medium (para 15 and 16).

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the deagglomeration invention of Schneider et al with various specific magnetic particles, such as the monodomain particles of Ivkov.

33. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al WO9927981 in view of Glass 6,056,872.

34. Schneider et al teach a method for preventing or reducing agglomeration of magnetic particles.

35. Glass teaches a method of magnetically treating fluids wherein varying magnetic field is applied, more particularly, at an equal strength (col 14, ll.15-61) and further is capable of being applied in all three spatial components (fig 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the deagglomeration invention of Schneider et al with the evenly applied magnetic field device of Glass in order to effect deagglomeration to the composition in an even manner.

36. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al WO9927981 in view of Nakane et al 5,122,418.

37. Schneider et al teach a method for preventing or reducing agglomeration of magnetic particles.

38. Nakane et al teach from the field of magnetic compositions: magnetic particles comprising a nonmagnetic core covered with a magnetic coating (col 13, ll. 8-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the deagglomeration invention of Schneider et al with various magnetic compositions, such as the magnetically coated particles of Nakane et al.

39. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al WO9927981 in view of Koester et al 3,961,990.

40. Schneider et al teach a method for preventing or reducing agglomeration of magnetic particles.

41. Koester et al teach from the field of magnetic materials: the magnetic particle is a multi or mono-domain particle that can be reverse magnetized by Neel rotation and/or

Art Unit: 3737

that the reverse magnetization is caused by Brownian rotation (col 1, l.4 - col 2, l.2). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the deagglomeration invention of Schneider et al with various magnetic materials, such reverse magnetized particles of Schneider et al.

42. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al WO9927981 in view of Rand 2005/0066961.

43. Schneider et al teach a method for preventing or reducing agglomeration of magnetic particles.

44. Rand teaches from the field of magnetic compositions: the magnetic particle is a hard or soft magnetic multi-domain particle (para 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the deagglomeration invention of Schneider et al with the magnetic composition of Rand in order to prevent agglomeration in the magnetic composition.

### ***Double Patenting***

45. Claims 2 and 22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9 and 13 of copending Application No. 10/552,808. Although the conflicting claims are not identical, they are not patentably distinct from each other because similar limitations for method and apparatus are claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Chao whose telephone number is (571)270-3072. The examiner can normally be reached on Mon-Fri, alt Fri off, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./  
Examiner, Art Unit 3737

/Ruth S. Smith/  
Primary Examiner, Art Unit 3737